IN THE CLAIMS:

1. (currently amended) A method ~~Method providing a homogeneous test~~ for detecting ~~the detection of any antitumour substances substitutive~~ a mimic of paclitaxel in a ~~the~~ paclitaxel binding site of a microtubule ~~microtubules~~, ~~wherein~~ comprising:

(a) ~~said method is based on the combination of~~ providing a target microtubule and a probe wherein the target microtubule is assembled *in vitro* and stabilized by means of chemical cross-linking and wherein the target microtubule is indefinitely conserved in liquid nitrogen following dialysis against a conservation and cryopreservation buffer,

(b) adding ~~the~~ a test substance ~~or test substances~~ to a solution of a target microtubule consisting of ~~microtubules~~ said target microtubule and a fluorescent probe bound to the target microtubule,

(c) ~~determining the displacement equilibrium curve of the probe from the target by any test substance, wherein the biomimetic compound is identified by measuring a~~ determining the drop in anisotropy of said solution at varying test substance concentrations, ~~or the variation of fluorescence intensity of the probe, or the resonance energy transfer of the probe to a suitable acceptor,~~ and

(d) ~~and~~ identifying ~~a biomimetic compound~~ the test substance as a paclitaxel mimic ~~wherein the biomimetic compound is identified by a~~ by means of such drop in fluorescence anisotropy ~~of the fluorescence of the probe~~ or by ~~means of the drop in~~ measuring the resonance energy transfer to the probe ~~bound~~ to a ~~ligand~~ suitable acceptor.

2. (canceled)

3. (canceled)

4. (currently amended) ~~Method~~ A method in accordance with claim 1, wherein the probe ~~of this method~~ is any fluorescent derivative of paclitaxel that is specifically bound to a microtubule ~~microtubules~~, including among others

7-O-[N-(2,7-difluoro-4'-fluoresceincarbonyl)-L-alanyl]paclitaxel,

7-O-[N-(2,7-difluoro-4'-fluoresceinsulphonyl)-L-alanyl]paclitaxel,

7-O-[N-(4'-tetramethylrhodaminrecarbonyl)-L-alanyl]paclitaxel,

7-O-[N-(2,7-difluoro-4'-fluoresceincarbonyl)-L-beta-alanyl]paclitaxel.

5. (currently amended) ~~Method~~ A method in accordance with claim 1 ~~2~~, wherein the probe ~~of this method~~ is any fluorescent derivative of paclitaxel that is specifically bound to microtubules, including among others
7-O-[N-(2,7-difluoro-4'-fluoresceincarbonyl)-L-alanyl]paclitaxel,
7-O-[N-(2,7-difluoro-4'-fluoresceinsulphonyl)-L-alanyl]paclitaxel,
7-O-[N-(4'-tetramethylrhodaminrecarbonyl)-L-alanyl]paclitaxel,
7-O-[N-(2,7-difluoro-4'-fluoresceincarbonyl)-L-beta-alanyl]paclitaxel.

6. (canceled)

7. (currently amended) ~~Method~~ A method in accordance with claim 1~~, characterised in that it can be~~ wherein the method is robotised and ~~in that~~ the measurements ~~can be~~ are made using a fluorescence plate reader ~~readers~~.

8. (currently amended) ~~Method~~ A method in accordance with claim 1 ~~2, characterised in that it can be~~ wherein the method is robotised and ~~in that the~~ measurements ~~can be~~ are made using a fluorescence plate reader ~~readers~~.

9. (canceled)

10. (currently amended) ~~Method~~ A method in accordance with claim 4~~, characterised in that it can be~~ wherein the method is robotised and ~~in that~~ the measurements ~~can be~~ are made using a fluorescence plate reader ~~readers~~.

11. (canceled)

12. (canceled)

13. (currently amended) ~~Method~~ A method for the high-efficiency (HTP) identification of antitumour compounds acting on ~~the~~ a binding site of paclitaxel in ~~the microtubules a~~

microtubule, deriving from natural or synthetic sources, comprising the steps of the method of claim 1.

14. (currently amended) A method for the evaluation of new derivatives of taxanes, epotilones, discodermalide, eleuterobine, sarcodicitine and any other binding site ligands of paclitaxel in ~~the microtubules~~ a microtubule, comprising the steps of the method of claim 1.

15. (previously presented) The method of claim 13, for the quantification of the content of said antitumour compounds in a natural production source.

16. (previously presented) The method of claim 14, for the quantification of the content of said new derivatives in a natural production source.

17. (original) A method for the evaluation of new sources for the extraction or preparation of potentially active substances starting from pharmacologically non-active or semi-active precursors, comprising the steps of the method of claim 1.

18. (currently amended) A method for the development of tools for conducting ~~of~~ tests in oncological and/or biological research related to cellular microtubules, comprising the method of claim 1.